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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/155,642 | 10/02/1998 | AKE LINDAHL | 003300-506 | 8949 |

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| EXAMINER | |
|---|---|
| WANG, SHENGJUN | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1617 | |

DATE MAILED: 08/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/155,642 | LINDAHL ET AL. | |
| | Examiner | Art Unit | |
| | Shengjun Wang | 1617 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *07 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *55-99* is/are pending in the application.

4a) Of the above claim(s) *59,60,80,81,83,84,95,96,98 and 99* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *55-58,61-79,82,85-94,97* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on May 7, 2004 has been entered.

1. Applicants' election in the parent application is presumed to carry over to the instant RCE since applicants have not indicated a contrary intention. Claims 59, 60, 80-81, 83-84, 95-96 and 98-99 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 15 submitted February 12, 2001.

### *Claim Rejections 35 U.S.C. 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 55-58, 61-79, 82, 85~~,88~~-94 and 97 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 55 is drawn to a composition comprising a) a solvent, which comprising unsaturated fatty alcohol and propylene glycol; and c) a plasticizing agent, which would read on the unsaturated fatty alcohols, or propylene glycol recited in a) (see, the specification, page 8,

lines 22-31). The double inclusion of such elements renders the claim indefinite as to the particular amounts of a) and c) recited in the claimed composition. One of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

5. Claim 55 recite the maxium amounts of a) is 85% and minimun amounts of b) and c) are 15% and 2% respectively. It is unclear when a) is 85%, what the actual percentages of the other two ingredients, since the sum of the other two ingredients can not be 17%.

***Claim Rejections 35 U.S.C. § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 55-58, 61-79, 82, 85-94 and 97 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (U.S. Patent 5,362,497) in view of Wang et al. (U.S. Patent 4,299,828 of record), Copper (U.S. Patent 4,552,872 of record).

8. Yamada et al. teach a transdermal therapeutic composition comprising pharmaceutical effective ingredient, e.g., corticosteroid, a water-soluble absorption enhancer, e.g., propylene glycol, (1-50%) and a fat soluble absorption enhancer comprising fatty alcohol, e.g., oleyl alcohol, (0.5-20%) and a lower alcohol ester of aliphatic carboxylic acid such as myristic acid or palmitic acid (1-50%). The typical lower alcohol is propanol. See column 2-4, particularly, column 3, line 16, 57-63, column 4, lines 5-6, 19, 41-52. The composition may be made into various forms by adding ingredients well known in the art such as bees-wax, lanolin glycerol fatty esters. See, particularly, column 5, line 38 bridging column 6, line 41. Yamada further teach

that, for fat soluble active ingredient, the active ingredient was first mixture with the fatty alcohols followed by mixing with other ingredients. See, particularly, column 6, lines 59-68. Yamada et al. also disclose that using the combination of water-soluble absorption enhancer and fat-soluble adsorption enhancer was known to be preferred for transdermal therapeutical composition, wherein the amounts of absorption enhancers are experimentally determined in accordance with the properties of drugs. See, particularly, column 1, lines 19 to 60.

9. The primary reference does not teach expressly the particular formulation herein which has corticosteroid as the active ingredient, and comprising unsaturated alcohols, lower alcohol ester of fatty acid, wax and plasticizing oil with the particular percentages, or the particular form, stick, or the method of using the same.

10. However, Copper teach that unsaturated alcohol such as oleyl alcohol in combination with propylene glycol are particular useful in topical composition containing corticosteroids. More specifically, Copper teach a composition comprising 0.02-5% of corticosteroid, 15-99 % of propylene glycol and oleyl alcohol as vehicle for treatment of dermatological disorder. See, Column 7, lines 28-68, and column 8, lines 31-68, and column 14, composition III. Cooper also teaches the inclusion of a wax to impart the stiffness to the composition. See, column 10, lines 35-54. Wang et al. teaches a corticosteroid containing stick formulation comprising wax to provide body and stiffness. See, the abstract, column 3, lines 49-64 and column 4, lines 10-54. Wang et al. further teaches the corticosteroid should be dissolved in the carrier (See, particularly, column 1, line 65 bridging column 2, line 19. The stick composition is generally composed of the active ingredient, wax, and fatty alcohols and propylene glycol.

Therefore, it would have been prima facie obvious to a person of ordinary skill in the art, at the time the claimed the invention was made, to modify the composition of Yamada to make a corticosteroid containing topical composition, stick, in particular, employing oleyl alcohol as the fat soluble enhancer and propylene glycol as the water soluble enhancer with the particular amounts claimed herein.

A person of ordinary skill in the art would have been motivated to modify the composition of Yamada to make a corticosteroid containing topical composition employing oleyl alcohol as the fat soluble enhancer and propylene glycol as the water soluble enhancer with the particular amounts claimed herein because both are known to be useful to enhance the absorption of the active ingredients and the amounts of such ingredients herein is encompassed by scope taught by the prior art. The employment of wax and plasticizer to render the final product certain properties (such as those required for stick formulation) is seen to been within the skill of artisan. The optimization of the amounts of each known ingredient in the composition is considered within the skill of artisan, absent evidence to the contrary. As to the limitation "homogeneous" carrier system, note it would have been obvious to one of ordinary skill in the art not to use the other non-soluble material, such as the super water-absorbent resin disclosed by Yamada because for corticosteroid stick composition, no water is used. It is well-settled that omission of an element and its function is obvious Ii the function of the element is not desired, Ex parte Wu , 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989).

***Response to the Arguments***

Applicants' remarks submitted May 7, 2004 have been fully considered, but are not persuasive for reasons discussed above.

With respect to the rejections under 35 U.S.C. 112, the examiner fully agrees with the applicants that there is no U.S. patent rule which require that compounds must fall only within one element of a claim. The examiner also agrees with applicants that one skilled in the art would easily understand that some compounds that may be suitable solvent would also be a suitable plasticizing agent and therefore can be used as a solvent or as a plasticizing agent. However, all these points provide no help in defining the scope of the claimed invention. Once a compound is in a composition, one may not argue the compound is only for one function and not for the other. If one could make arbitrary consideration as to which part for which function, it would be really confused. For examples, a composition as herein claimed but comprises only 80% of oleyl alcohol, without other plasticizing oil. Considering all the oleyl alcohol as solvent, one may say the composition does not meet the limitation as herein claimed because it does not comprise the plasticizing oil; Considering all the oleyl alcohol as plasticizing oil, one may also say the composition does not meet the limitation, but because it comprises too much plasticizing oil, and without the solvent; Considering 60% of oleyl alcohol as solvent, and the other 20% as plasticizing oil, one may argue the composition meet the limitation herein claimed. There would be no definite answer.

11. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.

1992). In this case, the teachings, motivation, and suggestion are presented in both the cited references and in the knowledge generally available to one of ordinary skill in the art. Particularly, it has been known to employ the combination of a water-soluble absorption enhancer, e.g., propylene glycol, and a fat-soluble absorption enhancer comprising fatty alcohol, e.g., oleyl alcohol, in dermatology composition, and the particular amounts would depend on the properties of the active drug in the composition (Yamada). It has been particularly known corticosteroids dermatological composition may comprise both propylene glycol and oleyl alcohol as carrier (Cooper). It also has been known that corticosteroid stick formulation comprises wax fatty alcohols, and propylene glycol (Wang). The motivation to combine is to fully utilize the advantage of the combined absorption enhancers. The employment of Wax is not merely examiner's assertion, it based on the fact that wax and other materials are used in the cited reference to provide physical properties, such as stiffness, hardness.

12. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Particularly, it is known in the art to use both propylene glycol and fatty alcohol (particularly, oleyl alcohol) as penetration enhancer in topical application (Yamada et al., Cooper et al.); it is known in the art that fatty alcohol and wax are essential carrier in a tick formulation for corticosteroid, and propylene glycol is useful in the stick formulation. Considered, the cited references as whole, the claimed invention would be obvious as discussed above.

As to Yamada's teachings, note, question under 35 U.S.C. 103 is not merely what reference expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the invention was made; all disclosures of prior art, including unpreferred embodiments, must considered. In re Lamberti and Konort (CCPA), 192 USPQ 278. Particularly, Yamada et al. teaches the benefit of the combination of a water-soluble absorption enhancer, e.g., propylene glycol, and a fat soluble absorption enhancer comprising fatty alcohol, e.g., oleyl alcohol, in dermatology composition. The particular examples disclosed by Yamada et al. are for water soluble active agents wherein water is used as solvent. Take the cited references as whole, one of ordinary skill in the art would have reasonably expected to be successful in making the composition herein claimed, particularly in view of the fact that corticosteroid stick are known to containing wax, propylene glycol and fatty acid (Wang), and the broad range of the amounts of absorption enhancers and the general guideline for optimizing the amounts for a specific drug.

Applicants assertion that Yamada reference is irrelevant are not probative. Both Yamada and the instant application are directed to topical application. Penetration of the active ingredient through skin are required in all topical application.

Applicants argue that Cooper teaches Wax has negative effect on absorption. This would provide further motivation to one of ordinary skill in the art to employ the absorption enhancers disclosed by Yamada et al. in a stick formulation with wax such as those disclosed by Wang.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shengjun Wang, Ph.D. whose telephone number is (571) 272-0632. The examiner can normally be reached on Monday-Friday from 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9302.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-1600.

SHENGJUN WANG
PRIMARY EXAMINER

Shengjun Wang

August 7, 2004